

ABSTRACT OF THE DISCLOSURE

Stent delivery system and method of manufacturing same. In one embodiment, the stent delivery system comprises an inner catheter. A handle is disposed at the proximal end of the inner catheter, and an enlarged tip is disposed at the distal end thereof. A stent engaging sleeve coaxially surrounds and is secured to a portion of the inner catheter proximally contiguous to the tip. The stent engaging sleeve is used to frictionally engage a stent mounted thereover in such a way as to prevent the stent, during deployment, from sliding proximally relative to the inner catheter. The system additionally comprises a self-expandable stent of the type comprising a knitted mesh of nitinol wire flexible in both the radial and longitudinal axes. The stent is mounted over the stent engaging sleeve in a longitudinally stretched state and is maintained, until deployment, in the stretched state by a stent restraining sleeve. The stent restraining sleeve, which coaxially surrounds the stent and is appropriately sized to maintain the stent in its stretched state, is a braided tube formed directly over the stent. The system also includes an outer catheter that surrounds much of the distal end of the inner catheter up to its tip, the outer catheter being adapted for axial movement relative to the inner catheter. The distal end of the outer catheter, which is mechanically coupled to the distal end of the stent for axial movement, is provided with an increased inner diameter to accommodate those components positioned between the inner and outer catheters. To facilitate the advancement of the outer catheter over the stent restraining sleeve during the assembly of the system, the outer catheter is fabricated with a longitudinal split extending proximally from its distal end. After the outer catheter has been positioned over the stent restraining sleeve, the split is sealed.